

(19)



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11)

EP 1 251 026 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
07.05.2003 Bulletin 2003/19

(51) Int Cl.7: **B60K 41/14**

(43) Date of publication A2:
23.10.2002 Bulletin 2002/43

(21) Application number: **02016014.9**

(22) Date of filing: **14.04.1999**

(84) Designated Contracting States:
DE FR GB
Designated Extension States:
AL LT LV MK RO SI

(30) Priority: **28.04.1998 JP 11977298**

(62) Document number(s) of the earlier application(s) in
accordance with Art. 76 EPC:
99107505.2 / 0 953 469

(71) Applicant: **TOYOTA JIDOSHA KABUSHIKI
KAISHA**
Alchi-ken 471-8571 (JP)

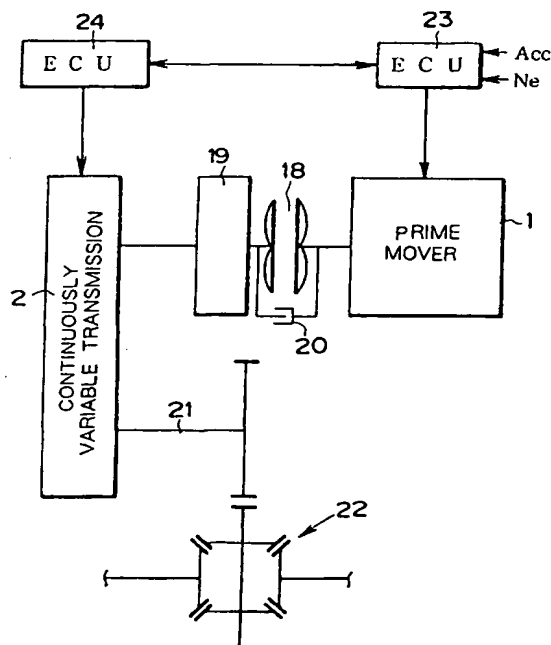
(72) Inventors:
• **Kubota, Hirofumi**
Toyota-shi, Alchi-ken, 471-8571 (JP)
• **Ito, Yasushi**
Toyota-shi, Alchi-ken, 471-8571 (JP)

(74) Representative: **Böckelen, Rainer**
Tiedtke-Bühling-Kinne & Partner (GbR),
TBK-Patent
Bavariaring 4
80336 München (DE)

(54) **Control system for reduction of vibrations in vehicle having continuously variable transmission**

(57) A control system of a vehicle having a continuously variable transmission (2), in which the continuously variable transmission capable of changing a gear ratio continuously is coupled to the output side of a power source to control the output torque of the power source (1) in accordance with an inertial torque established by changing the gear ratio. The output torque of the power source is controlled (23) to a torque which is based on the inertial torque and a target torque based on a demand for changing a driving force. The system reduces the "backing" or "transient surge" vibrations which may occur when the gear ratio changes e.g. during downshifting.

FIG.22





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 02 01 6014

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
D,A	PATENT ABSTRACTS OF JAPAN vol. 1996, no. 11, 29 November 1996 (1996-11-29) -& JP 08 177997 A (NISSAN MOTOR CO LTD), 12 July 1996 (1996-07-12) * abstract *	1-7	B60K41/14
A	US 5 658 217 A (TSUKADA TAIKI) 19 August 1997 (1997-08-19) * the whole document *	1-7	
A	EP 0 449 169 A (MATSUSHITA ELECTRIC IND CO LTD) 2 October 1991 (1991-10-02) * figure 32 *	5,6	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			B60K
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
THE HAGUE		14 March 2003	de Beurs, M
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EP01 FORM 1503 03 82 (P4C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 02 01 6014

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

14-03-2003

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
JP 08177997	A	12-07-1996	NONE		
US 5658217	A	19-08-1997	JP	8080769 A	26-03-1996
EP 0449169	A	02-10-1991	EP	0449169 A2	02-10-1991
			JP	2502839 B2	29-05-1996
			JP	6019510 A	28-01-1994
			US	5355065 A	11-10-1994

EPO FORM P4455

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82